

ISO/PAS 20065:2016-07 (E)

Acoustics - Objective method for assessing the audibility of tones in noise - Engineering method

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Measurement procedure	5
4.1 General	5
4.2 Measurement instruments	5
4.3 Merging the basic spectra	5
5 Evaluation	6
5.1 General information	6
5.2 Width f_c of the critical band	7
5.3 Determination of prominent tones	7
5.3.1 General information	7
5.3.2 Determination of the mean narrow-band level L_S of the masking noise	7
5.3.3 Determination of the tone level L_T of a tone in a critical band	8
5.3.4 Distinctness of a tone	9
5.3.5 Determination of the critical band level, L_G , of the masking noise	10
5.3.6 Masking index	10
5.3.7 Determination of the audibility, L	10
5.3.8 Determination of the decisive audibility, L_j , of a narrow-band spectrum	10
5.3.9 Determination of the mean audibility L of a number of spectra	12
6 Calculation of the uncertainty of the audibility L	13
7 Recommendations on the presentation of results	16
7.1 Measurement	16
7.2 Acoustic environment	16
7.3 Instruments for measurement, recording and evaluation	16
7.4 Acoustic data	16
Annex A (informative) Window effect and Picket fence effect	17
Annex B (informative) Resolving power of the human ear at frequencies below 1 000 Hz and geometric position of the critical bands – corner frequencies	20
Annex C (informative) Masking, masking threshold, masking index	22
Annex D (informative) Iterative method for the determination of the audibility, L	23
Annex E (informative) Example for the determination of the tonal audibility	27
Bibliography	33